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| 10/736,329 | 12/16/2003 | Harue Nakashima | 740756-2685 | 3698 |

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NIXON PEABODY, LLP
401 9TH STREET, NW
SUITE 900
WASHINGTON, DC 20004-2128

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| EXAMINER |
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LIN, JAMES

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| ART UNIT | PAPER NUMBER |
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1792

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12/06/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/736,329

Applicant(s)

NAKASHIMA ET AL.

Examiner

Jimmy Lin

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2007.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19, 21, 22 and 24-31 is/are pending in the application.
4a) Of the above claim(s) 24, 25 and 27-29 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 19, 21, 22, 26, 30 and 31 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/25/07.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) filed 7/25/2007 will not be considered because foreign patent document CN 2443576 is not accompanied with an English translation in this filing and has already been considered in the IDS filed 5/10/2007 and because the Office Action issued to the Chinese Patent Application is not a publication. The IDS filed 7/25/2007 only cites the two above-mentioned documents.

Election/Restrictions

2. Applicant has withdrawn claim 30. However, claim 30 belongs to an elected species and has already been examined on the merits as a claim dependent of claim 26. Applicant is required to change the status of claim 30 from "Withdrawn" back to "Previously Presented".

Claim Objections

3. Claim 29 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. If the claim were to be rejoined, the claim would fail to further limit parent claim 19.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 19, 21-22, 26, and 30-31 (claim 30 as dependant from 26) are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuang (CN2443576Y, as provided by Applicant) in

view of Ueda et al. (U.S. Patent No. 6,420,057). JP 5-9470 (hereafter, '470) is provided as evidence.

Shuang discloses a method of forming an organic electron transport material formed between an anode and a cathode. The electron transport layer is formed via simultaneous evaporation (i.e., co-depositing) of an organic material and a metal salt (numbered paragraphs (1)-(5) on pg. 15-16). Shuang teaches that the organic material can be one of the compounds taught in '470 such as, e.g., compounds 20, 22, and 24 (see paragraphs [0037], [0043], and [0051], respectively, of '470).

Shuang teaches a metal salt, but does not explicitly teach that the metal salt can be a metal alkoxide. However, Ueda teaches a method of making a metal complex similar to that of Shuang, both of which are used in EL devices. Either a metal salt or a metal alkoxide can be used along with an organic complex (col. 77, lines 31-51). The teachings of Ueda would have presented a recognition of equivalency in the prior art and would have presented strong evidence of obviousness in substituting one for the other in a process of forming a metal complex for an EL composition. The substitution of equivalents requires no express suggestion. See MPEP 2144.06. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have substituted the metal salt of Shuang for a metal alkoxide of Ueda because the substitution would have yielded predictable results to one of ordinary skill in the art.

Claims 30-31: Compounds 20 and 22 of '470 can be used with zinc metal.

6. Claims 19, 21-22, 26, and 30-31 (claim 30 as dependant from 26) are rejected under 35 U.S.C. 103(a) as being unpatentable over Heuer et al. (U.S. Patent 6,316,130) in view of WO 00/32719 (hereafter '719) and Ueda '057.

Heuer discloses a method of manufacturing a EL device comprising an anode, cathode, and an EL layer between wherein the EL layer comprises an organic compound (such as compound IIIF of column 16) and a metal salt, such as aluminum chloride (Example 1, 2). Heuer discloses supplying the organic compound and aluminum chloride are first processed in a reactor to form an organometallic complex.

Heuer does not explicitly disclose the elected species in the Examples, however the organic compound is disclosed as having aryl substituent and Heuer even exemplifies aryl in

formula B6 column 17. Therefore it would have been obvious to one of ordinary skill in the art to have selected the elected formula with a reasonable expectation of success because Heuer clearly discloses an organic compound encompassing the claimed compound.

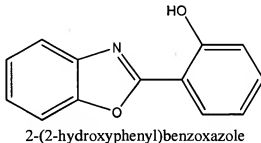
Heuer discloses forming the organometallic complex in solution prior to depositing on the substrate, but does not explicitly teach that the organic compound and the metal salt can be co-deposited over an anode or electrode. However, '719 discloses an improved method for forming a film of an organic metal complex by co-depositing the metal salt and the organic complex over the anode or electrode to form an organometallic complex (abstract; page 2; 2nd full paragraph on pg. 7). '719 teaches that the co-deposition method does not require multiple syntheses steps while forming an EL layer with improved performance (abstract; page 2). Therefore it would have been obvious to one of ordinary skill in the art to vaporize both the metal salt and the organic compound and deposit them simultaneously on the substrate to reap the benefits as taught by '719 with a reasonable expectation of success.

Heuer discloses the use of a metal salt, but does not explicitly teach that the metal salt can be a metal alkoxide. However, such is obvious over Ueda for substantially the same reasons discussed above.

Claims 30-31: Heuer teaches that compound B6 can be used with gallium metal.

7. Claims 19, 21-22 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 40-9328679 (hereafter '679) in view of WO 00/32719 (hereafter '719) and Ueda '057.

'679 discloses a method for manufacturing an EL device comprising an anode, a cathode, and an organic EL layer formed therebetween, wherein the EL material is made from 2-(2-hydroxyphenyl)benzoxazole and zinc acetate (abstract, [0031]). The 2-(2-hydroxyphenyl)benzoxazole contains a hydroxyl group and an azomethine group.



'679 does not explicitly teach that the organic material and the zinc acetate are co-deposited onto an anode or cathode. However, such is obvious over '719 for substantially the same reasons discussed above.

'679 does not explicitly teach the use of a metal alkoxide as the particular metal salt. However, such is obvious over Ueda for substantially the same reasons discussed above

Response to Arguments

8. Applicant's arguments filed 10/2/2007 have been fully considered but they are not persuasive.

Applicant argues that the prior art of record does not teach the use of a metal alkoxide. However, Ueda teaches that the use of a metal alkoxide is obvious, as discussed above. The grounds of rejection have been modified to include the teachings of Ueda in order to account for the claim amendments.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 1792


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy Lin whose telephone number is 571-272-8902. The examiner can normally be reached on Monday thru Friday 8AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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TIMOTHY MEES
SUPERVISORY PATENT EXAMINER

